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The present forecasts will be updated if needed in the World Agricultural Supply and Demand Estimates scheduled for release on October 12, October 24, November 13, and December 11, 1984.

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Summary

After increasing for 3 years, Government purchases of dairy products are dropping. They are declining because commercial sales are up and milk production and marketings are down. During January-August, USDA net removals of dairy products under the price support program were equal to 7.8 billion pounds of milk (fat-solids basis), down 44 percent from the same period in 1983. For calendar 1984, removals are expected to equal about 8.5 billion pounds, compared with last year's 16.8 billion.

January-July sales of all milk and dairy products (fat-solids basis) rose 3.5 billion pounds, or 4.5 percent on a daily average basis. For all of 1984, commercial sales are expected to be up 3 to 3.5 percent. In 1985, sales could climb another 1 to 4 percent.

Milk production during January-August was down 2.1 billion pounds, 2.7 percent on a daily average basis. For the rest of this year, cow numbers are expected to edge down slightly, but the current decline in output per cow will probably slow. September-December milk production is likely to decrease about 4 percent from a year earlier. Output for 1984 is forecast to total 135.8 billion pounds, a drop of 4.2 billion from 1983. Projections for 1985 place output within 1 percent of 1984. This year's production decline is partly the result of the dairy diversion program, but it is also due to lower milk prices, the 50-cent deductions, higher grain and hay prices, improved off-farm employment opportunities, and expectations of still lower milk prices in 1985.

Milk prices received by farmers in August were below a year earlier. However, the difference was only about one-third that in April. Prices this fall are expected to move above a year earlier, but prices for the year will still average lower than in 1983. The all-milk price will probably average about $13.35 per cwt, down from last year's $13.57. Next year, assuming lower support prices on April 1 and July 1, the all-milk price may average less than in 1984, with most of the decline occurring during the second half.

Wholesale spot prices for butter and cheese have moved higher since May. In August, the Bureau of Labor Statistics wholesale price index for all dairy products was 251 (1967=100), 0.2 percent above a year earlier and 0.8 percent above May. For the rest of this year, the index will probably stay above a year earlier, bringing the annual average close to 1983's figure.

Retail prices of dairy products in the next month or two should reflect the recent advances in wholesale spot prices. Retail dairy prices for the year are expected to be up 1.4 percent. For 1985, they maybe unchanged to 2 percent higher.

Table 1.—U.S. dairy situation at a glance

Item	Unit or base period	Quarterly data					
		2nd 1982	2nd 1983	3rd 1983	4th 1983	1st 1984	2nd 1984
Production and cow numbers:							
Total milk	Mil. lb	35,725	36,881	35,015	33,825	34,136	35,685
Milk per cow	Lb	3,245	3,321	3,145	3,031	3,112	3,298
Number of milk cows	Thou.	11,010	11,106	11,135	11,158	10,971	10,852
Prices received by farmers:							
All milk, sold to plants, 100 pounds	Dol	13.30	13.37	13.33	13.80	13.40	12.97
Percentage of parity[1]	Pct	66	63	61	60	57	57
Manufacturing grade milk, 100 pounds	Dol	12.43	12.53	12.33	12.87	12.40	12.13
Parity equivalent	Dol	18.86	20.02	20.11	20.26	21.17	21.32
Fat content	Pct	3.61	3.62	3.53	3.85	3.78	3.59
Minnesota-Wisconsin (3.5% fat), 100 pounds	Dol	12.43	12.51	12.49	12.40	12.06	12.08
Milk eligible for fluid market, 100 pounds	Dol	13.43	13.50	13.47	13.97	13.57	13.10
Price ratio and dairy ration value:							
Milk/16-percent feed price relationship	Lb	1.48	1.46	1.41	1.36	1.34	1.31
Value of concentrate ration fed, milk cows	Dol	7.50	7.46	7.80	8.30	8.58	8.32
Farm cash receipts from dairy products	Mil. dol	4,731	4,916	4,634	4,493	4,556	4,633
Production of factory products:							
Butter	Mil. lb	334.0	348.4	260.7	308.2	350.2	292.3
American cheese, whole milk	Mil. lb	759.4	834.2	698.9	677.3	700.0	777.2
Cheese other than American	Mil. lb	443.5	462.9	457.5	518.3	469.4	494.6
Canned milk, unskimmed	Mil. lb	195.6	189.3	167.2	176.6	144.6	173.5
Dry whole milk	Mil. lb	29.4	27.4	26.4	30.6	30.9	32.6
Frozen products[2]	Mil. gal	334.3	340.6	366.4	250.1	271.1	349.2
Creamed cottage cheese	Mil. lb	197.4	192.0	196.1	172.7	182.1	192.4
Total (milk-equivalent, fat-solids basis)[3]	Mil. lb	21,654	22,727	20,180	18,920	19,967	21,281
Nonfat dry milk, human use	Mil. lb	417.5	446.9	370.8	313.2	326.1	362.1
Wholesale prices:							
Butter, Grade A, Chicago, pound	Ct	147.3	147.3	148.7	146.0	141.3	145.3
Cheese, American (40-pound blocks), f.o.b. Wisconsin assembling points, pound	Ct	137.2	137.5	137.7	139.4	135.7	135.9
Evaporated milk, case	Dol	22.02	22.23	22.23	22.23	22.23	22.23
Nonfat dry milk, pound, f.o.b. Central States, high heat	Ct	93.0	93.4	93.4	92.6	90.7	90.7
Dairy products (BLS)	1967=100	248.5	250.8	250.5	250.5	248.5	249.2
Retail prices (BLS):							
Consumer price index[4]	1967=100	287.3	296.9	300.5	303.1	306.4	309.7
All food[4]	1967=100	285.7	292.1	292.3	293.1	301.2	301.9
All dairy products[4]	1967=100	246.9	250.1	250.1	250.1	250.8	251.4
Fluid milk and cream	12/77=100	135.6	136.5	136.3	135.9	136.5	136.6
Whole milk	1967=100	221.8	223.2	222.9	222.1	223.0	223.3
Other	12/77=100	135.8	136.8	136.5	136.4	137.2	137.3
Manufactured dairy products	12/77=100	145.2	148.3	148.5	149.1	149.3	149.7
Butter	1967=100	250.7	253.7	253.8	255.0	254.2	253.6
Cheese	12/77=100	143.6	146.3	146.7	146.6	146.7	146.7
Frozen desserts	12/77=100	149.7	153.2	152.8	154.7	155.2	156.5
Other	12/77=100	139.4	144.1	145.5	145.6	146.4	147.8
Margarine	1967=100	260.2	258.7	258.7	269.1	279.6	282.9
Stocks, end of quarter:							
Creamery butter	Mil. lb	447.8	529.0	589.6	552.3	499.4	529.3
Cheese total[5]	Mil. lb	898.0	1,160.4	1,213.3	1,314.7	1,266.4	1,298.8
Canned milk, unskimmed	Mil. lb	48.2	49.1	76.7	94.9	47.7	54.6
Dry whole milk	Mil. lb	6.9	5.0	5.8	4.4	6.4	5.8
Total (milk-equivalent, fat-solids basis)[6]	Mil. lb	18,022	22,220	24,017	24,294	22,646	23,610
Nonfat dry milk	Mil. lb	975.6	1,305.7	1,401.4	1,419.1	1,394.9	1,421.0
Commercial disappearance:							
Creamery butter	Mil. lb	217.6	198.6	217.0	256.6	206.9	245.6
Cheese, American	Mil. lb	546.1	570.7	500.2	545.4	557.6	591.8
Cheese, other than American	Mil. lb	484.5	508.3	521.1	609.4	527.4	554.4
Canned milk, unskimmed	Mil. lb	150.1	159.0	144.5	221.4	134.7	136.2
Milk in all products	Mil. lb	30,942	30,929	32,044	31,753	29,471	32,579
Nonfat dry milk	Mil. lb	75.5	106.4	122.4	121.6	137.0	116.7
USDA net removals:							
Butter	Mil. lb	130.7	148.9	44.3	47.5	136.6	45.4
Cheddar cheese	Mil. lb	220.1	272.2	221.4	129.5	150.6	180.9
Nonfat dry milk	Mil. lb	309.3	331.4	270.3	187.7	205.3	230.2
Evaporated milk	Mil. lb	5.5	5.0	6.8	7.5	7.6	3.6
Total (milk-equivalent, fat-solids basis)	Mil. lb	4,886	5,776	3,117	2,275	4,325	2,741

[1]Seasonally adjusted prices as percentage of parity price. [2]Ice cream, ice milk, and sherbet. [3]Includes manufactured products for which current data are available. [4]For all urban consumers starting January 1978. [5]Natural plus processed American cheese held by CCC. [6]Excludes cream and bulk condensed milk.

PRODUCTION

Decline Continues

Milk production during June-August was 3.8 percent below a year earlier, with August also down 3.8 percent. August was the eighth month of the 15-month milk diversion program and the seventh consecutive month of year-over-year production declines. The August drop resulted from 2.7 percent fewer cows and a 1.2-percent decrease in output per cow. During January-August, milk production was 2.1 billion pounds (2.3 percent) below last year; adjusted for leap year, it was down 2.7 percent.

Of the 33 States surveyed during August, only California, the second leading milk-producing State, posted a gain—up 3.6 percent from a year earlier. Milk production in Wisconsin, the leading State, declined 1.7 percent. New York dropped production 3.3 percent, while Minnesota, Pennsylvania, and Michigan lowered output by 9.7, 1.9, and 5.3 percent, respectively.

July Replacement Inventory Larger Than Last Year

Milk cows on farms on July 1, 1984, numbered 10.85 million head, down 290,000 from January 1 and 270,000 (2.4 percent) from a year earlier. Dairy heifers (500 pounds and over) held for herd replacements totaled 4.95 million head, up 70,000 (1.4 percent) from July 1, 1983. With a gain in replacements and a decline in milk cows, the number of heifers per 100 cows was a record 45.6. Five years ago, when the current surplus started, there were 38.5 replacements per 100 cows.

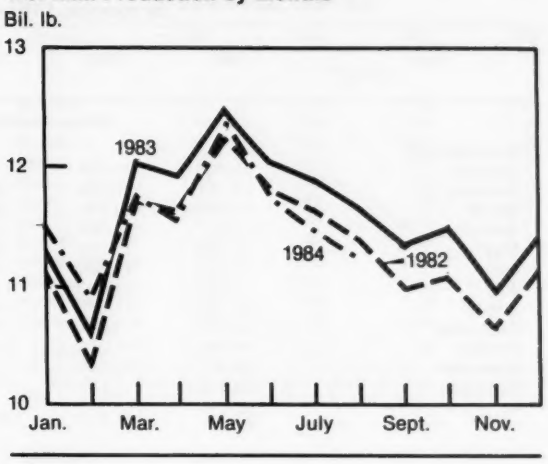
A record rate of culling during first-half 1984 offset the large number of replacements calving and entering the herd, hence the 290,000-head decline since January 1. Based on the January and July inventories and assuming that 35 percent of the July 1, 1983, replacements calved during first-half 1984, 2 million head or about 18 percent of the January 1, 1984, cow herd were culled (including death loss). The 35 percent is based on average ages of 27 months for calving and 10 months for a 500-pound replacement. During first-half 1983, culling and death losses totaled about 1.63 million head, nearly 15 percent of the January 1, 1983, inventory. Therefore, about 370,000 additional dairy cows likely went to slaughter during first-half 1984. For the last 10 years, the culling rate during January-June has averaged 13.5 percent.

This year for the first time, federally inspected (FI) cow slaughter is being reported separately for dairy and beef cows. The FI dairy cow kill for January-June was 1.74 million head, implying a total commercial dairy cow slaughter of 1.81 million head (not all cow kills are federally inspected). Assuming death loss at 1 percent (2 percent annually), the number of replacements that entered the herd during January-June was 1.65 million, 33.8 percent of the July 1, 1983, inventory.

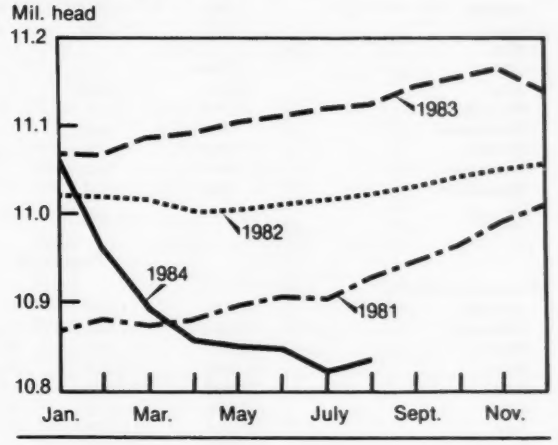
Feed Prices Move Below Last Year

The average price paid by farmers for 16-percent protein dairy feed has declined since early winter. Mid-August prices averaged $188 per ton, down $17 since January

U.S. Milk Production by Months



Milk Cows on Farms



Cow Slaughter, Federally Inspected

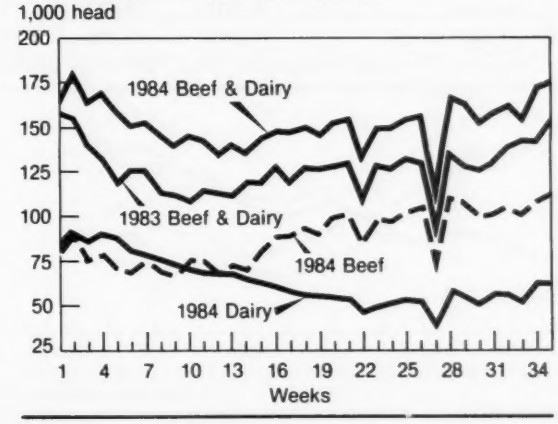
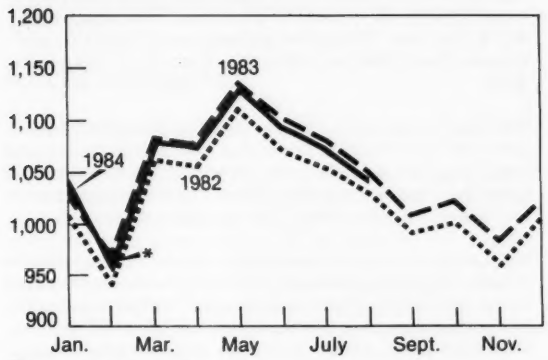


Table 2.—Milk production, milk per cow, and milk cows on farms, by months, 1981-84, with comparisons

Item	1981	1982	1983	1984[1]	Change from year earlier			
					1981	1982	1983	1984
	Million pounds				*Percent*			
Milk production[2]								
January	10,805	11,121	11,473	11,490	+4.7	+2.9	+3.2	+0.1
February	10,161	10,394	10,725	10,905	+1.9	+2.3	+3.2	+1.7
March	11,549	11,731	12,049	11,741	+5.5	+1.6	+2.7	−2.6
April	11,555[3]	11,654	11,966	11,674	+4.8	+0.9	+2.7	−2.4
May	12,099	[3]12,241	12,642	12,283	+3.4	+1.2	+3.3	−2.8
June	11,606	[3]11,830	12,273	11,832	+2.4	+1.9	+3.7	−3.6
July	11,387	[3]11,633	12,061	11,570	+2.8	+2.2	+3.7	−4.1
August	11,132	[3]11,375	11,692	11,243	+3.1	+2.2	+2.8	−3.8
September	10,659	[3]10,954	11,262		+3.0	+2.8	+2.8	
October	10,768	[3]11,066	11,430		+2.9	+2.8	+3.3	
November	10,387	[3]10,656	11,000		+3.3	+2.6	+3.2	
December	10,905	[3]11,147	11,395		+3.9	+2.2	+2.2	
Total[4]	133,013	135,802	139,968		+3.5	+2.1	+3.1	
	Pounds				*Percent*			
Milk per cow[2]								
January	994	1,008	1,036	1,039	+3.8	+1.4	+2.8	+0.3
February	934	943	969	995	+0.9	+1.0	+2.8	+2.7
March	1,062	1,065	1,086	1,078	+4.5	+0.3	+2.0	−0.7
April	1,061	[3]1,059	1,079	1,075	+3.7	−0.2	+1.9	−0.4
May	1,110	[3]1,112	1,138	1,132	+2.4	+0.2	+2.3	−0.5
June	1,064	[3]1,074	1,104	1,091	+1.3	+0.9	+2.8	−1.2
July	1,044	[3]1,055	1,084	1,069	+1.9	+1.1	+2.7	−1.4
August	1,018	[3]1,031	1,051	1,038	+2.1	+1.3	+1.9	−1.2
September	974	[3]992	1,010		+2.0	+1.8	+1.8	
October	982	[3]1,001	1,024		+1.9	+1.9	+2.3	
November	945	[3]963	985		+2.1	+1.9	+2.3	
December	990	[3]1,007	1,022		+2.5	+1.7	+1.5	
Total[4]	12,177	12,309	12,587		+2.4	+1.1	+2.3	
	Thousands				*Percent*			
Milk cows on farms[5]								
January	10,871	11,029	11,075	11,064	+0.9	+1.5	+0.4	−0.1
February	10,881	11,024	11,072	10,958	+1.0	+1.3	+0.4	−1.0
March	10,879	11,020	11,090	10,890	+1.0	+1.3	+0.6	−1.8
April	10,886	[3]11,005	11,094	10,856	+1.0	+1.1	+0.8	−2.1
May	10,898	[3]11,008	11,107	10,851	+1.0	+1.0	+0.9	−2.3
June	10,906	[3]11,015	11,116	10,848	+1.0	+1.0	+0.9	−2.4
July	10,904	[3]11,026	11,126	10,821	+0.9	+1.1	+0.9	−2.7
August	10,930	[3]11,031	11,129	10,833	+0.9	+0.9	+0.9	−2.7
September	10,949	[3]11,040	11,150		+1.0	+0.8	+1.0	
October	10,969	[3]11,055	11,159		+1.1	+0.8	+0.9	
November	10,993	[3]11,066	11,170		+1.2	+0.7	+0.9	
December	11,011	[3]11,071	11,146		+1.4	+0.5	+0.7	
Annual average	10,923	11,033	11,120		+1.0	+1.0	+0.8	

[1]Preliminary. [2]Excludes milk sucked by calves. [3]ERS derived data consistent with published official USDA quarterly estimates. No monthly data for an individual State or region are available. [4]May not add because of rounding. [5]Excludes heifers not yet fresh.

Milk Production Per Cow



*Adjusted for Leap Year.

Table 3.—Milk/16-percent feed price relationship, by months, 1981-84[1]

Month	1981	1982	1983	1984
		Pounds		
January	1.39	1.55	1.59	1.34
February	1.39	1.54	1.56	1.34
March	1.41	1.52	1.55	1.33
April	1.39	1.51	1.49	1.32
May	1.35	1.46	1.45	1.31
June	1.36	1.46	1.43	1.31
July	1.40	1.47	1.45	1.34
August	1.43	1.49	1.41	1.39
September	1.48	1.56	1.36	
October	1.53	1.61	1.39	
November	1.56	1.62	1.36	
December	1.54	1.60	1.34	
Average	1.44	1.53	1.45	

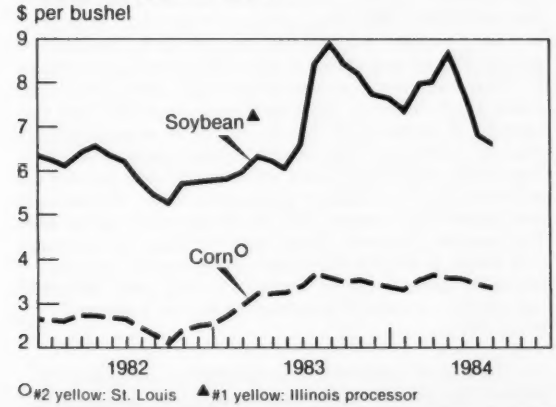
[1]Pounds of 16-percent protein ration equal in value to 1 pound of milk.

Table 4.—Corn, soybean meal, and 16-percent dairy feed ration prices, 1982-84

Month	Corn, No. 2 St. Louis			Soybean meal, Decatur			16-percent dairy feed		
	1982	1983	1984	1982	1983	1984	1982	1983	1984
		$/bu.			*$/ton*			*$/ton*	
January	2.65	2.52	3.41	191.0	179.3	201.9	181	175	205
February	2.61	2.79	3.31	191.0	177.1	184.4	180	177	201
March	2.66	2.99	3.55	183.6	177.3	196.4	179	175	199
April	2.78	3.24	3.61	190.2	186.8	190.0	179	182	199
May	2.78	3.24	3.58	192.4	185.8	197.4	181	184	197
June	2.75	3.27	3.57	183.6	175.5	174.4	179	184	195
July	2.68	3.39	3.43	181.9	189.3	157.6	180	182	192
August	2.42	3.68	3.33	169.0	232.8	151.6	177	189	188
September	2.32	3.60		160.8	233.6		173	198	
October	2.12	3.50		157.0	228.6		171	199	
November	2.43	3.53		173.4	224.7		172	205	
December	2.49	3.45		178.5	218.0		174	205	
Average[1]	2.56	3.27		179.4	200.7		177	188	

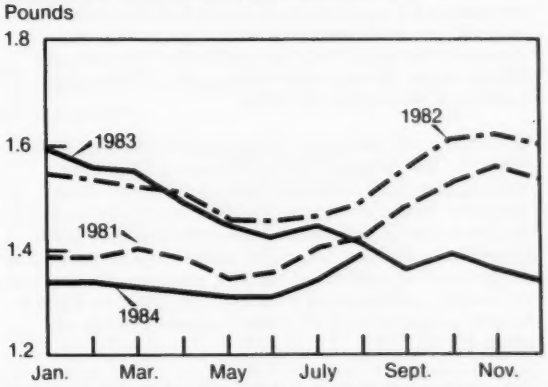
[1]Simple average of monthly prices.

Corn and Soybean Prices



○#2 yellow: St. Louis ▲#1 yellow: Illinois processor

Milk/16-Percent Feed Price Relationship*



*Pounds of 16% protein ration equal in value to one pound of milk sold to plants and dealers.

Table 5.—Milk cows and replacements, 1981-84

Date	Milk cows (1,000 head)	Replacement heifers, 500 pounds and over	
		Number	Number per 100 cows
1981			
January 1	10,860	4,345	40.0
July 1	10,920	4,628	42.4
1982			
January 1	11,012	4,532	41.2
July 1	11,020	4,780	43.4
1983			
January 1	11,076	4,533	40.9
July 1	11,120	4,880	43.9
1984			
January 1	11,140	4,541	40.8
July 1	10,850	4,950	45.6

Table 6.—Utility cow prices, Omaha, by months, 1981-84

Month	1981	1982	1983	1984
		Dollars per cwt		
January	41.61	36.64	36.94	33.26
February	43.65	38.11	40.92	39.69
March	43.12	39.41	42.36	44.01
April	43.95	41.26	43.04	42.88
May	42.39	43.40	42.98	42.17
June	42.88	42.73	42.26	42.16
July	43.78	42.52	41.14	41.48
August	44.31	42.62	39.63	40.86
September	42.47	41.52	37.75	
October	40.60	39.28	37.42	
November	37.70	36.58	34.14	
December	36.65	35.41	33.58	
Average	41.93	39.96	39.35	

and slightly below a year earlier. With milk prices in August the same as in April, the dairy farmer was able to buy 139 pounds of grain for each cwt of milk sold—up 7 pounds (5 percent) since April and only 2 pounds (1.4 percent) below a year earlier.

This year's corn crop based on September 1 conditions is forecast at 7.55 billion bushels—a yield of 106.3 bushels per acre on 71.1 million acres harvested for grain. The crop will put downward pressure on prices this fall. However, the impact will be modified by low carryout stocks, which are expected to total about 700 million bushels on September 30, 1984.

In addition, all categories of use are projected to be up in 1984/85. Use probably will total around 7.2 billion bushels, compared with this year's 6.6 billion. Thus, carryover stocks on October 1, 1985, may increase 300 million bushels. As a result, farm prices will be lower than during 1983/84, when the market was dominated by drought and the effects of the PIK program. Corn prices at the farm are expected to range from $2.75 to $3.05 a bushel, compared with this year's season average of about $3.25.

This year's soybean crop is expected to total about 2 billion bushels, up around 450 million from last year. Use also will be up in 1984/85, but less than production, so stocks are expected to increase by about 150 million. With a more normal level of stocks, soybean prices during 1984/85 are likely to be less volatile and lower—ranging from $5.75 to $7.25 per bushel, compared with $7.75 this year. Prices for soybean meal (Decatur) are forecast from $145 to $165 a ton, down from this year's $190.

This year's hay crop is estimated at a record 153.4 million tons—12.5 million above last year's drought-reduced crop. Hay use is likely to be lower in 1984/85 because of fewer beef and dairy cattle. Stocks will be larger and hay prices should be lower than a year earlier.

With corn and soybean meal prices lower and expected to remain low through harvest, the cost of 16-percent dairy ration will likely remain below a year earlier until mid-1985, when new crop developments and demand will determine price. Meanwhile, milk prices will increase more than seasonally this fall; thus the milk/feed price ratio will continue to improve this year and it is expected to remain above a year earlier in early 1985.

Production Declines To Continue At Least Until Spring of 1985

During July-August, milk production was down 4 percent. If dairy diversion participants held to their contracted marketings, then nonparticipants had production gains of less than 1 percent. During July-August 1983, the nonparticipants had production gains of about 6 percent.

Output per cow in 1984 is likely to be down about 0.6 percent from 1983 because of concentrate feeding reductions and other management changes. On July 1, concentrate feeding per cow was 5 percent below a year earlier. The 1.3-percent drop in output per cow during July-August is likely to moderate later this year. With an improved milk/feed price ratio this fall, dairy farmers may increase the rate of grain feeding. In 1985, yield per cow is anticipated to move above year-earlier levels as the effect of the diversion program ends. For the year, output per cow is projected to be up 1 to 2 percent, compared with an average gain of nearly 2 percent per year from 1980 to 1983.

The dairy cow herd in August was 337,000 head below the November 1983 peak, a drop of 3 percent. Relative to a year earlier, cow numbers were down 2.7 percent during August and they are expected to decline further in 1984, resulting in an annual average about 2.4 percent below 1983. Much of the drop during first-half 1984 was because of increased culling by diversion program participants. However, some nonparticipants also reduced their herds because of lower effective returns per cwt of milk marketed and higher production costs. The dairy herd is forecast to start 1985 about 3 percent below 1984. The number of cows on farms may increase as the diversion program ends, but because of lower milk (support) prices the gains could be limited. For the year, the average number of cows is projected to be 1 to 2 percent below 1984.

For the rest of 1984, with cow numbers expected to decline slightly, while the drop from a year earlier in output per cow slows, milk production is likely to

decrease at an annualized rate of about 4 percent. Total milk production for 1984 will likely be about 135.8 billion pounds, down 3 percent. In 1985, production is expected to range from 1 percent below to 1 percent above 1984.

PRICES AND INCOME

Support May Be Lower in 1985

Under provisions of the Dairy and Tobacco Adjustment Act of 1983, the support price for the 1984/85 marketing year (October-September) will be $12.60 per cwt for manufacturing grade milk with 3.67-percent fat ($12.31 at 3.5-percent fat). However, next April 1, if the Secretary of Agriculture estimates that Commodity Credit Corporation (CCC) net purchases for the following 12 months will exceed 6 billion pounds, milk-equivalent, the support price could be reduced by 50 cents per cwt. An additional 50-cent cut could be made on July 1, 1985, if CCC net purchases from then to June 30, 1986, are projected to exceed 5 billion pounds, milk-equivalent. However, if CCC net purchases are expected to be 5 billion pounds or less and if it is determined necessary to ensure an adequate supply for current needs, the support price may be increased, but not less than 50 cents per cwt.

Assuming no change in the support program, the purchase prices for butter, cheese, and nonfat dry milk at the beginning of 1984/85 will remain at the levels set on December 1, 1983: butter in Chicago (Grade A or higher), 143.25 cents per pound; nonfat dry milk (Extra Grade), 91 cents per pound; and Cheddar cheese in 40- or 60-pound blocks, 134.75 cents per pound (3 cents lower in 500-pound barrels). However, the purchase prices may change on April 1 or July 1, 1985, to reflect adjustments in the support level or other program changes.

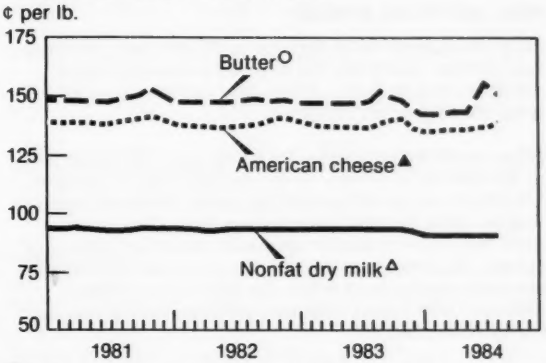
This year for the first time in over 5 years, the sellback provision of the support program is affecting the wholesale market. Under current policy, CCC inventories are available for sale to the trade for unrestricted use at the higher of 1) 10 percent above the purchase price, or 2) the market price. Thus, the current minimum sellback prices are 157.75 cents per pound for butter (Chicago), 100 cents for nonfat dry milk, and 148.25 cents for block cheese (barrels, 3 cents less). When effective, the sellback provisions tend to put a cap on price gains in the commercial market by making any CCC uncommitted inventories available to the market.

Wholesale Prices Advance

During June, butter prices (Grade A, Chicago) advanced 18 cents to 160.75 cents per pound, 15.25 above a year earlier, 17.5 above the CCC purchase price, and 3 above the minimum sellback price. This large early price advance was triggered by a certain amount of panic in the cream markets and could not be supported by basic supply-demand conditions. During July, butter prices fell 15.25 cents to 145.50 per pound, even with a year earlier. In August, prices again advanced, rising 12.35 cents to the minimum sellback level of 157.75 per pound, 9.75 above a year earlier. Butter prices at wholesale are expected to remain near the minimum sellback level until late this year.

The price of Cheddar cheese (Wisconsin assembly points, 40-pound blocks) also demonstrated strength this sum-

Wholesale Dairy Product Prices



○Grade AA Chicago. △High-heat, central-states.
▲40-lb. block, Wisconsin assembly points.

Table 7.—Milk prices received by farmers, by months, 1981-84

Month	All sold to plants				Manufacturing grade			
	1981	1982	1983	1984	1981	1982	1983	1984
	Dollars per cwt							
January	14.10	14.00	13.90	13.60	13.00	13.00	12.90	12.50
February	14.00	13.80	13.80	13.40	12.90	12.80	12.80	12.40
March	13.80	13.70	13.60	13.20	12.80	12.70	12.70	12.30
April	13.70	13.50	13.60	13.10	12.70	12.60	12.70	12.30
May	13.50	13.20	13.30	13.00	12.60	12.40	12.50	12.10
June	13.40	13.20	13.20	12.80	12.50	12.30	12.40	12.00
July	13.40	13.20	13.20	12.90	12.40	12.30	12.30	12.10
August	13.50	13.30	13.30	13.10	12.40	12.30	12.20	12.10
September	13.70	13.60	13.50		12.60	12.60	12.50	
October	14.00	13.80	13.80		12.90	12.90	12.90	
November	14.00	13.90	13.90		13.00	13.00	13.00	
December	14.00	13.90	13.70		13.00	13.00	12.70	
Average[1]	13.76	13.59	13.57		12.73	12.66	12.60	

[1]Simple average of reported monthly prices.

mer. During August, the advance was 5.87 to 142.75 per pound, 5.37 cents above a year earlier and 8 higher than the CCC purchase price. However, part of the price gain may have been related to the elimination of the 2.25-cent-per-pound assembly charge on the Wisconsin cheese exchange. Cheese prices may rise further during the rest of the year.

Nonfat dry milk prices have not yet strengthened. During August, prices for high-heat (Central States area) averaged 90.75 cents per pound, slightly below CCC purchase prices and unchanged from the January average. However, price rises for dry whey and dry buttermilk since May reflect significant tightening in the solids-not-fat market. Thus, some upward price pressure on nonfat dry milk can be expected this fall.

With the wholesale spot prices of butter and cheese higher, the Bureau of Labor Statistics (BLS) wholesale price index for all dairy products in August was 251 (1967=100), 0.2 percent above a year earlier and 0.8 percent above May. During January-August, the dairy wholesale index averaged about 0.5 percent below 1983; however, for the rest of this year it probably will be higher. For all of 1984, the index likely will average about the same as in 1983.

Farm Milk Prices Stronger

Milk prices received by farmers in August were below a year earlier. However, the difference was only about one-third that in April. Prices this fall are expected to move above year-earlier levels.

Prices received by farmers for manufacturing grade milk in Minnesota-Wisconsin (M-W) during August averaged $12.30 per cwt at 3.5 percent fat, down 18 cents from August 1983, but up 22 cents since May. The advance since May reflects higher wholesale prices for butter and cheese. With expected higher prices for cheese and possibly nonfat dry milk this fall, the M-W price is also expected to be higher—perhaps moving above a year earlier by November.

Reported U.S. manufacturing grade milk prices during June-August averaged $12.07 per cwt, down 23 cents from the same period in 1983. In contrast, the average during January-May was 40 cents lower. This fall, Grade B prices likely will average about the same to 30 cents higher than last year. Some price strength may carry into early 1985. For all of this year, the average is anticipated to be about $12.45 per cwt, down 15 cents from 1983. In calendar 1985, with lower support prices, the average may be unchanged to 80 cents lower.

Minimum Class I prices in Federal order markets have increased in the last few months, reflecting increases in the M-W price for manufacturing grade milk. In October, Federal order Class I prices should average close to $14.45 per cwt, an increase of 13 cents from September and the largest month-to-month rise in nearly 4 years. This will follow a rise of about 10 cents in September. However, although higher, the minimum order Class I prices still remain below year-ago levels. This fall, winter, and through early spring 1985, minimum Class I prices are expected to move above and remain higher than year-earlier levels because of gains in the M-W price, and higher Class I differential in 11 of the Federal order markets.

The average over-order payments on Class I milk in Federal order markets have been increasing along with minimum order prices. For September, the estimated average over-order payment is 78 cents per cwt, up 10 cents from August, 20 cents from July, and also 20 cents from September 1983. The estimated September average is the highest since early 1975. The largest increases in September over-order payments were in the Southeastern markets, where shipments from outside the area are being increased to meet fluid milk requirements.

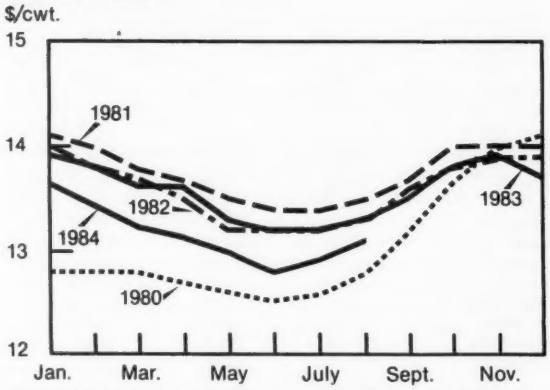
Prices received by U.S. farmers for all milk during January-August averaged $13.14 per cwt, 35 cents below a year earlier. This fall, reported all-milk prices are expected to strengthen, but the annual average will probably be about $13.35 per cwt, down from last year's $13.57. In 1985, assuming lower support prices on April 1 and July 1, the all-milk price may be unchanged to 80 cents lower than in 1984.

Southeastern Orders Amended

USDA has taken emergency action to amend a number of orders in the Southeastern portion of the country to reflect current tight supply-demand conditions. The action is to ensure that handlers in those markets share equitably in the cost of obtaining supplemental supplies of milk during the short production season this fall and winter. In 11 orders, the Class I differential is increased 20 cents per cwt for September 1984 through February 1985. In addition, a hauling credit of 3.3 cents per cwt for each 10 miles is provided for bulk milk bought from other orders and classified as Class I milk under these 11 orders during this period. At the same time, in eight orders with base-excess plans, producers are allowed to shift milk between markets without adversely affecting their base.

In other Federal order actions, a national hearing was held to consider proposals to amend all Federal orders to provide for a separate classification for milk used to produce butter and nonfat dry milk. Such milk is now priced at the M-W manufacturing grade price. The proposed price for this milk would be M-W price or a butter-powder formula price, whichever is lower. A decision on this action is still pending.

All Milk Prices*



*U.S. average price received by farmers for deliveries to plants and dealers.

Table 8.—Wholesale dairy product prices and indexes

Item	Unit	Aug. '82	Aug '83	Avg. '83	Apr. '84	May '84	June '84	July '84	Aug.'84
Butter, A, Chicago	cents/lb	148.07	147.75	147.30	142.94	142.92	150.04	155.55	150.61
Cheese, 40-lb blocks, Wisconsin assembly points	cents/lb	137.76	137.05	138.28	135.88	135.88	136.02	136.71	138.59
Nonfat dry milk, Central States, high heat	cents/lb	93.12	93.38	93.19	90.75	90.75	90.75	90.75	90.75
Wholesale price index (all dairy products)	1967=100	248.8	250.4	250.4	248.9	248.9	249.4	251.4	251.0
Fresh whole milk	1967=100	198.2	199.6	199.6	199.4	199.3	199.4	199.5	199.6
Butter	1967=100	227.4	226.8	226.8	220.2	221.3	227.3	242.1	227.2
Cheese	1967=100	315.8	313.2	313.2	308.4	308.8	308.7	309.9	312.4
Ice cream	1967=100	235.1	239.5	239.8	245.6	244.9	244.0	248.3	246.0

Table 9.—Retail dairy product prices

Item	Unit	July 1982	Avg. 1982	July 1983	Avg. 1983	Apr. 1984	May 1984	June 1984	July 1984
Milk, fresh, whole[1]	$ per 1/2 gal	1.123	1.124	1.127	1.128	1.126	1.124	1.121	1.125
Milk, fresh, skim	$ per 1/2 gal	.978	.979	.985	.986	1.013	1.005	.999	1.003
Milk, fresh, lowfat	$ per 1/2 gal	1.064	1.062	1.086	1.074	1.073	1.074	1.067	1.059
Butter, salted, Grade AA, sticks	$ per lb	2.057	2.046	2.069	2.066	2.041	2.058	2.054	2.112
Ice cream, pre-packaged, bulk, regular	$ per 1/2 gal	2.092	2.102	2.122	2.158	2.210	2.203	2.193	2.212
Yogurt, natural, fruit-flavored	$ per 1/2 pt	.513	.503	.510	.514	.542	.523	.534	.529

[1]Vitamin fortified. NA = Not available.

Table 10.—Retail price indexes[1]

Item	Index base	July 1982	Avg. 1982	July 1983	Avg. 1983	Apr. 1984	May 1984	June 1984	July 1984
Consumer price index	1967=100	292.2	289.1	299.3	298.4	308.8	309.7	310.7	311.7
All food	1967=100	288.5	285.7	292.0	291.7	302.3	301.4	302.2	303.2
All dairy products	1967=100	247.5	247.0	249.8	249.9	251.5	251.0	251.7	252.2
Fluid milk and cream	12/77=100	135.6	135.4	136.2	136.3	136.8	136.5	136.6	136.7
Whole milk	1967=100	221.6	221.4	222.8	222.9	223.7	223.0	223.2	223.3
Other	12/77=100	136.2	135.6	136.4	136.7	137.3	137.3	137.3	137.5
Manufactured dairy products	12/77=100	145.9	145.6	148.2	148.3	149.6	149.4	150.2	150.8
Butter	1967=100	251.1	251.1	253.3	254.0	252.4	254.2	254.1	261.2
Cheese	12/77=100	144.2	143.9	146.9	146.3	146.6	146.2	147.4	147.9
Frozen desserts	12/77=100	150.4	150.4	151.6	153.2	156.4	156.6	156.6	155.8
Other	12/77=100	141.3	140.2	144.5	144.4	148.2	146.8	148.5	148.3

[1]For all urban consumers.

Retail Dairy Price Gain Remains Small

The BLS retail price index for all dairy products was 252.2 (1967=100) in July, up 1 percent from a year earlier. In contrast, the all-food price index was up 3.8 percent. Retail prices of dairy products will likely reflect the increased wholesale spot prices and higher effective Class I prices in the next month or two. The BLS retail dairy index is expected to average about 253.3 for 1984, a gain of 1.4 percent from 1983. In 1985, the dairy price index is likely to be unchanged to 2 percent higher.

*Farm-to-Retail Price Spread Increases**

Farm-to-retail price spreads for grade A whole milk are the difference between the average retail price per half-gallon and the farm value of the whole milk equivalent of a half-gallon sold at retail. Price spreads represent the total marketing charges for processing and distribution from the farm gate to the retail counter.

* This section prepared by Karen D. Parham, ERS, USDA, (202) 447-8636.

Table 11.—Consumer expenditures for food and dairy products, income, and labor required to purchase specified dairy products, selected years, 1950-83

Year	Consumer expenditures			Disposable personal income	Hourly wage rate[2]
	For all foods[1]	For dairy products			
		Amount	Percentage all food		
	Billion dollars	*Million dollars*	*Percent*	*Billion dollars*	*Dollars*
1950	46.0	8,157	17.7	205.4	1.44
1955	58.1	10,301	17.7	273.3	1.86
1960	70.5	12,098	17.2	352.0	2.26
1965	85.8	13,049	15.2	475.8	2.61
1970	119.6	16,729	14.0	695.3	3.35
1971	123.4	15,176	12.3	751.8	3.57
1972	132.4	17,957	13.6	810.3	3.82
1973	147.9	19,294	13.0	914.5	4.09
1974	167.5	21,823	13.0	998.3	4.42
1975	185.2	23,316	12.6	1,096.1	4.83
1976	200.4	26,386	13.2	1,194.4	5.22
1977	217.4	27,781	12.8	1,314.0	5.68
1978	240.9	30,170	12.5	1,474.0	6.17
1979	272.2	33,581	12.3	1,650.2	6.70
1980	301.2	37,879	12.6	1,828.9	7.27
1981	326.4	41,296	12.7	2,047.6	7.99
1982	343.5	42,908	12.5	2,176.5	8.50
1983[3]	365.1	45,797	12.5	2,335.6	8.84

	Time worked to earn money to purchase[4]				
	Butter, 1-lb.	Milk at stores 1/2-gal.	American cheese, 1/2-lb.	Ice cream, 1/2-gal.	Evaporated milk, 14&1/2-oz. can
			Minutes		
1950	29.6	15.8	11.7	[5]35.6	5.1
1955	22.5	13.8	10.2	26.6	4.3
1960	19.5	12.8	9.0	22.2	4.1
1965	17.3	10.9	8.7	18.1	3.5
1970	15.5	10.3	9.0	15.1	3.4
1971	14.5	9.9	8.9	14.4	3.3
1972	13.7	9.4	8.5	13.5	3.1
1973	13.4	9.6	8.9	13.3	3.3
1974	12.8	10.4	9.9	14.6	3.9
1975	12.7	9.6	9.5	15.2	3.8
1976	14.7	9.3	9.9	14.6	3.9
1977	14.3	8.7	9.4	14.3	3.8
1978	14.5	8.4	9.3	14.2	3.7
1979	15.1	8.6	9.6	14.6	3.7
1980	15.5	8.7	9.7	15.0	3.8
1981	15.0	8.4	9.6	15.1	3.7
1982	14.4	7.9	9.3	14.8	3.6
1983[3]	14.0	7.7	9.0	14.7	3.6

[1]Excludes alcoholic beverages, food donated by the Government, nonpersonal spending for food, and institutional food use. [2]Average of all manufacturing industries. [3]Preliminary. [4]Based on hourly wage rates of all manufacturing industries. [5]1951.

The Bureau of Labor Statistics provides an estimate of the U.S. average retail price each month. To obtain a farm value comparable to the retail price, two adjustments must be made. First, the minimum Class I milk price reported for Federal milk order markets is adjusted for transportation from farm to first processing plant to obtain a farm-level price. Then, the Class I price is adjusted to obtain a value of milk containing 3.3 percent milkfat—the amount in whole milk sold at retail. After making these two adjustments, a value is obtained for milk while still on the farm that is identical in butterfat content to that sold in the retail store.

Large milk surpluses and an unchanged support price have kept both farm and retail prices of milk fairly stable since late 1980. In 1983, the farm value increased less than 1 percent from a year earlier. The farm-to-retail spread averaged 53.3 cents a half-gallon in 1982 and 53.4 in 1983.

The farmers' share, expressed as a percentage of the retail prices, is interpreted as cents received by farmers per dollar spent on milk by consumers. The farmers' share remained near 53 percent in 1982 and 1983. In February 1984, it declined to 51 percent of the price of a half-gallon because of a 3-percent drop in the farm value of whole milk. The farmers' share has declined slowly from its 1976 high of 57 percent.

The farm-to-retail spread averaged just under 55 cents in the first 7 months of 1984, about 1 cent higher than in the first 7 months of 1983. Although the retail price when from $1.13 a half-gallon in 1983 to $1.12 in 1984, the farm value fell about 2 cents—a 3-percent drop. The farm value declined because of increased costs for hauling milk from the farm to the processing plant. The farmers' share averaged 51 percent of the retail price of a half-gallon during January-July 1984—2 percentage points below last year.

Away-From-Home Dairy Expenditures Higher

Consumers spent an estimated $45.8 billion for dairy products during 1983, up 6.7 percent from 1982. Slightly less than a fifth of the gain resulted from higher retail dairy prices; the BLS retail price index for dairy was up

Retail Food and Dairy Product Prices

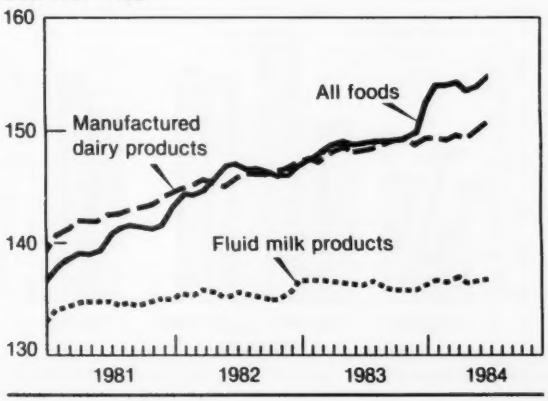


Table 12.—Consumer expenditures for dairy products, 1981-83

Item	1981	1982	1983
		Billion dollars	
At-home	25.6	25.9	26.7
Away-from-home	15.7	17.0	19.1
Public eating places	11.9	12.8	14.4
Institutions	3.8	4.2	4.7
Total	41.3	42.9	45.8

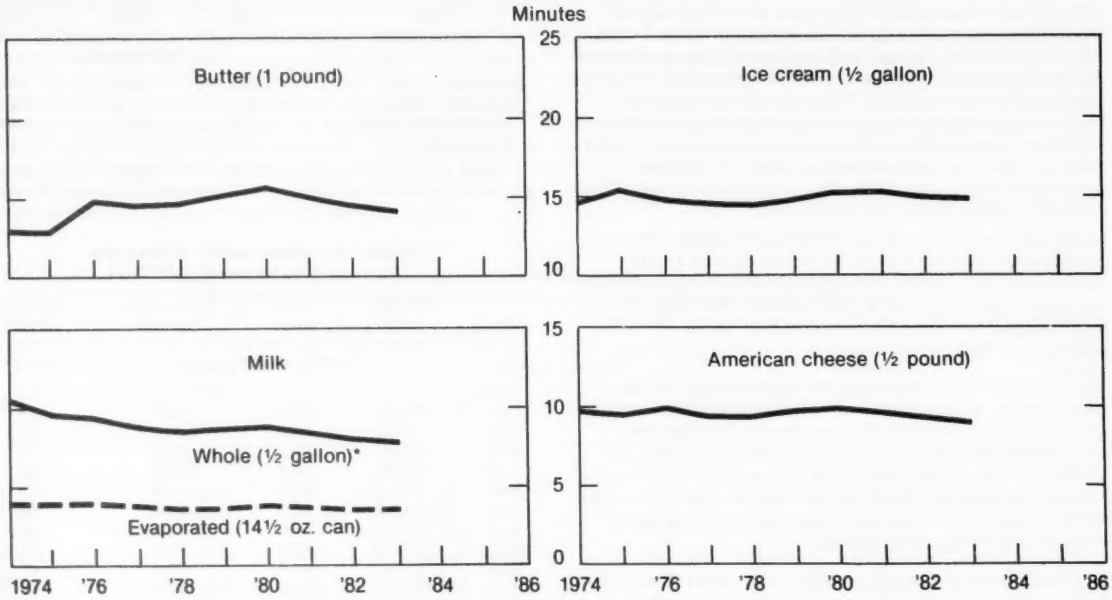
Table 13.—Whole milk: Prices and farm-to-retail spread, 1982-84

Year	Retail price	Farm value	Farm-retail spread	Farmers' share
	Cents per half-gallon			*Percent*
1982				
Jan.	113.4	59.3	54.1	52
Feb.	113.0	59.5	53.5	53
Mar.	112.7	59.5	53.2	53
Apr.	112.7	59.1	53.6	52
May	112.9	59.1	53.8	52
June	112.2	59.0	53.2	53
July	112.3	59.0	53.3	53
Aug.	112.2	58.9	53.3	53
Sep.	111.6	58.9	52.7	53
Oct.	112.1	59.0	53.1	53
Nov.	111.7	59.1	52.6	53
Dec.	112.6	59.5	53.1	53
Year	112.5	59.2	53.3	53
1983				
Jan.	113.4	59.6	53.8	53
Feb.	113.3	59.8	53.5	53
Mar.	113.3	59.8	53.5	53
Apr.	113.3	59.6	53.7	53
May	112.8	59.4	53.4	53
June	112.7	59.3	53.4	53
July	112.7	59.3	53.4	53
Aug.	113.0	59.3	53.7	52
Sep.	112.7	59.2	53.5	53
Oct.	112.0	59.2	52.8	53
Nov.	112.4	59.2	53.2	53
Dec.	112.3	59.4	52.9	53
Year	112.8	59.4	53.4	53
1984				
Jan.	112.4	59.6	52.8	53
Feb.	112.2	57.6	54.6	51
Mar.	112.1	57.4	54.7	51
Apr.	112.6	57.4	55.2	51
May	112.4	57.5	54.9	51
June	112.1	57.4	54.7	51
July	112.5	57.3	55.2	51

Table 14.—Milk farm-to-retail price spread, 1984

Month	Farm-retail spread	Change from 1983
	Cents per half-gallon	*Percent*
January	52.8	−2
February	54.6	+2
March	54.7	+2
April	55.2	+3
May	54.9	+3
June	54.7	+2
July	55.2	+3

Minutes Worked Earning Money to Buy Selected Dairy Products △



△Data are based on hourly wage rates of all manufacturing industries. *Bought at stores.

1.2 percent. Part of the gain stemmed from higher commercial disappearance (sales), which was up 0.3 percent. However, the major part of the increase was because purchases for away-from-home consumption increased proportionally more than purchases for home use. Away-from-home use accounted for 42 percent of all dairy expenditures in 1983, up 3 percentage points from 1982.

Less Labor Needed To Buy Dairy Products

In 1983, wages rose 4 percent, while retail prices of dairy products increased 1.2 percent. As a result, the average wage earner in all manufacturing industries had to work fewer minutes to earn money to purchase dairy products. For example, it took about 14 minutes of labor at $8.84 per hour to buy a pound of butter in 1983, versus about 14.4 minutes in 1982. There were similar decreases for a half-gallon of fresh whole milk, a half-pound of American cheese, and a half-gallon of ice cream. With retail prices likely to be up less than wages in 1984 and 1985, the time needed to buy most dairy items probably will continue to decline.

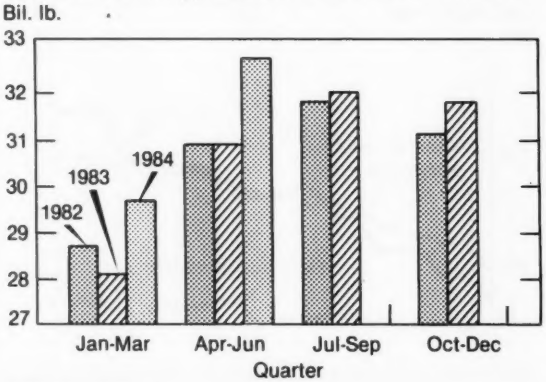
UTILIZATION

Commercial Use Still Strong

Second-quarter commercial disappearance of all milk and dairy products, on a milk-equivalent, fat-solids basis, was up a strong 5.3 percent, following a healthy first-quarter gain of 5.0 percent (3.8 percent on a daily average basis). In addition, preliminary data for July-August show that third-quarter commercial use probably will be up more than 2 percent. For January-August, commercial disappearance is up about 4 billion pounds, or 5 percent (adjusted for leap year, 4.6 percent).

Even if sales remain unchanged during September-December, commercial disappearance of milk and dairy products for all of 1984 will be up about 3 percent. However, some additional gains seem quite likely because of larger per capita incomes and the national dairy product promotion program. For all of 1984, commercial use (sales) is expected to be up 3 to 3.5 percent. In 1985, sales are projected to be up 1 to 4 percent.

Commercial Disappearance of Milk in All Products*



*Milk equivalent.

A comparison of January-July commercial disappearance of major dairy products with a year earlier shows that butter was up 10 percent, American cheese 11 percent, cheese other than American types 8 percent, ice cream 2 percent, fluid products 1 percent, and nonfat dry milk 22 percent. Meanwhile, canned milk was down 11 percent.

Milk Used in Manufacturing Down More Than Production

Milk used to manufacture dairy products during January-July totaled about 47.7 billion pounds, down 2.8 billion (5.6 percent) from the same period in 1983. Meanwhile, milk production declined about 1.7 billion pounds. In addition, about 500 million more pounds of milk are likely being used on the farm than in 1983. Fluid products will use about 0.4 billion pounds more milk this year.

On a milk-equivalent, fat-solids basis, butter output during January-July was down 2.3 billion pounds and American-type cheese was down 1.1 billion, while other-than-American-type cheese was up 0.4 billion and ice cream was up 0.1 billion.

Wisconsin Milk Shipments Larger

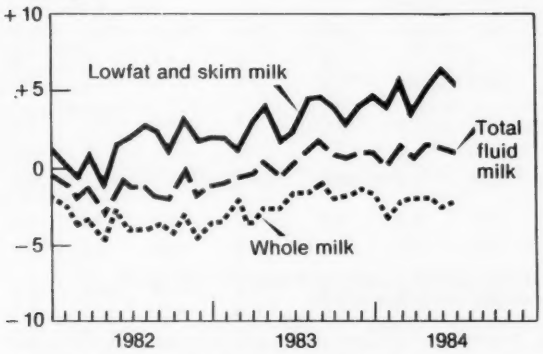
The total volume of Wisconsin out-of-State milk shipments during January-August was more than five times larger than a year earlier. Most of the extra shipments are moving to the Southeast. In addition, since the movement of milk under contract is not reported in these data, the Southern flow of milk is being underreported.

Shipments of Wisconsin milk are expected to decline late this summer. However, they may still be above a year earlier, particularly to the Southeast, where production has been down sharply this year.

CCC Stocks Lower

Milk-equivalent stocks (fat-solids basis) held by CCC on August 1 were about 17 billion pounds, a decrease of 2 billion (10.6 percent) from a year earlier and 2.5 billion below the seasonal peak on September 1, 1983. Stocks declined because CCC program usage was larger than net removals from the market.

Daily Average Sales of Fluid Milk Items



*From year earlier. Adjusted for calendar composition.

Table 15.—Production of selected manufactured dairy products

Item	Jan.-July 1983	Jan.-July 1984[1]	Change
	Million pounds		*Percent*
Butter	821.7	715.4	−12.9
Cheese			
American	1,812.2	1,707.5	−5.8
Other	1,056.4	1,121.5	+6.2
Creamed cottage	437.5	438.4	+0.2
Canned milk	408.9	372.2	−9.0
Dry whole milk	62.0	73.3	+18.2
Ice cream (gal)	520.7	530.8	+1.9
Milk equivalent[2]	50,585.0	47,747.0	−5.6
Nonfat dry milk	959.3	799.9	−16.6

[1]Preliminary. [2]Total reported manufactured products.

Table 16.—Wisconsin out-of-State milk shipments

Month	1982[1]		1983[1]		1984[1]	
	Loads	Volume	Loads[2]	Volume[3]	Loads[2]	Volume[3]
	Thousand Number	*Thousand pounds*	*Thousand Number*	*pounds*	*Number*	*pounds*
January	57	2,679	13	611	44	2,156
February	31	1,457	7	329	42	2,058
March	20	940	1	47	64	3,136
April	7	329	1	47	75	3,675
May	15	705	9	423	35	1,715
June	22	1,034	3	141	148	7,252
July	25	1,175	28	1,372	71	3,479
August	23	1,081	62	3,038	236	11,564
September	68	3,196	258	12,642		
October	20	940	57	2,793		
November	50	2,350	54	2,646		
December	14	658	50	2,450		
Total	352	16,544	543	26,539		

[1]Changes in marketing practices in the Chicago market and adjacent Federal order markets may affect the comparability of these data. [2]Includes out-of-State skim milk shipments. [3]Average weight of load increased from 47,000 pounds to 49,000 after July 1, 1983.

Table 17.—Dairy sales, January-July, 1983-84

Item	1983	1984	Change
	Million pounds		*Percent*
Total milk[1]	69,517.0	73,099.0	+5.2
Manufactured products:			
American cheese	1,196.2	1,329.8	+11.2
Other cheese	1,163.4	1,265.5	+8.8
Cottage cheese[2]	568.7	574.5	+1.0
Butter	477.9	526.2	+10.1
Ice cream	2,499.6	2,548.0	+1.9
Ice milk	985.9	1,035.0	+5.0
Canned milk	358.7	317.4	−11.4
Nonfat dry milk	248.6	302.8	+21.8
Fluid products[3]			
Whole milk	10,928	10,747	−2.3
Skim and lowfat milk	9,220	9,720	+4.9

[1]On a milk equivalent, fat-solids-basis. [2]Creamed and low-fat. [3]Based on Federal order data, percent change adjusted for calendar composition and seasonality.

Changes in Fluid Product Sales Per Capita, 1978 to 1983

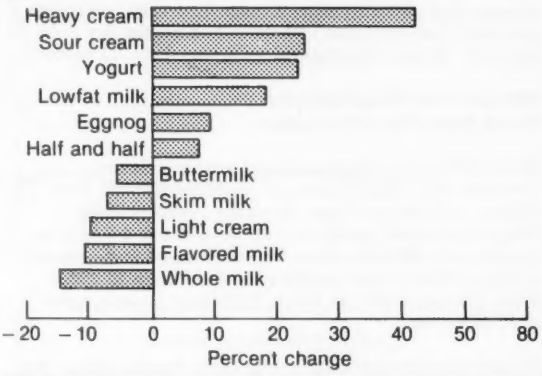


Table 18.—Commercial disappearance: Total milk, annual and quarters, 1982-84[1]

Item	1982				1983[2]					1984[2]	
	Quarters				Quarters						
	II	III	IV	Total	I	II	III	IV	Total	I	II
					Billion pounds						
Production	35.7	34.0	32.9	135.8	34.2	36.9	35.0	33.8	140.0	34.1	35.8
Farm use	.6	.6	.6	2.4	.6	.6	.6	.6	2.3	.8	.8
Marketings	35.1	33.4	32.3	133.4	33.7	36.3	34.4	33.2	137.6	33.3	35.0
Beginning commercial stocks	5.2	5.0	4.6	5.4	4.6	5.2	5.3	5.2	4.6	5.2	5.3
Imports	.6	.6	.9	2.5	.6	.5	.6	.9	2.6	.6	.6
Total supply	40.9	39.0	37.7	141.3	38.9	42.0	40.3	39.3	144.8	39.1	40.9
Ending commercial stocks	5.0	4.6	4.6	4.6	5.2	5.3	5.2	5.2	5.2	5.3	5.6
Net removals	4.9	2.6	2.1	14.3	5.6	5.8	3.1	2.3	16.8	4.3	2.7
Commercial disappearance (actual)	30.9	31.8	31.1	122.4	28.1	30.9	32.0	31.8	122.8	29.5	32.6
Percent change[3]	+2.1	+0.2	+1.6	+1.6	−2.1	−0.0	+0.8	+2.3	+0.3	[4]+3.8	+5.3

[1]Milk-equivalent, fat-solids basis. Totals may not add because of rounding. [2]Preliminary. [3]From year earlier, using unrounded data. [4]On a daily average basis.

Table 19.—Commercial disappearance: Selected manufactured dairy products, 1978-84[1]

Year	Butter[2]	Cheese		Nonfat dry milk	Canned milk	Frozen products[4]
		American[3]	Other			
		Million pounds				*Million gallons*
1978	903.5	2,064.7	1,655.5	658.4	776.1	1,173.5
1979	895.0	2,113.1	1,730.4	603.1	773.7	1,152.1
1980	878.8	2,023.9	1,827.9	538.9	732.5	1,166.9
1981	869.2	2,147.9	1,875.6	464.1	750.4	1,167.7
1982-1st Qtr.	211.4	541.3	462.9	105.0	170.6	249.6
2nd Qtr.	217.6	546.1	484.5	75.5	150.1	334.3
3rd Qtr.	217.3	549.4	501.0	147.1	164.7	346.2
4th Qtr.	251.0	528.0	596.2	120.1	230.0	248.1
Total	897.3	2,165.0	2,044.6	447.7	715.3	1,178.2
1983-1st Qtr.	209.5	466.9	494.6	109.6	160.8	264.4
2nd Qtr.	198.6	570.7	508.3	106.4	159.0	340.6
3rd Qtr.	217.0	500.2	521.1	122.4	144.5	366.4
4th Qtr.	256.6	545.4	609.4	121.6	221.4	250.1
Total[5]	881.7	2,083.2	2,133.3	459.9	685.8	1,221.5
1984-1st Qtr.[5]	206.9	557.6	527.4	137.0	134.7	271.1
2nd Qtr.[5]	245.6	591.8	544.4	116.7	136.2	349.2

[1]Total may not add because of rounding. [2]Imports include butter-equivalent of butteroil. [3]Imports include Colby cheese; stocks do not include processed cheese. [4]Excludes Meliorine. [5]Preliminary.

Table 20.—Sales of selected fluid milk, cream, and specialty products, total and per capita, 1976-83

Item	1976	1977	1978	1979	1980	1981	1982[1]	1983[1]
				Million pounds				
Beverages:								
Whole milk, plain	35,669	34,300	33,634	32,780	31,745	30,806	30,095	30,346
Lowfat milk	12,622	13,573	14,458	15,237	16,203	16,900	17,429	18,085
Skim milk	2,555	2,639	2,576	2,631	2,673	2,621	2,534	2,532
Flavored milk & drinks	2,364	2,525	2,484	2,385	2,313	2,295	2,197	2,354
Buttermilk	1,035	1,016	996	950	941	893	934	990
Total[2, 3]	54,290	54,093	54,185	54,017	53,908	53,546	53,217	54,331
Cream and specialty products:								
Half and half	538	541	544	550	562	576	588	619
Light cream	77	68	71	67	55	55	62	67
Heavy cream	131	128	124	140	149	156	164	187
Sour cream, dips	355	367	380	399	415	429	462	497
Yogurt	482	534	565	567	589	582	624	741
Eggnog	87	94	95	94	95	100	105	110
Total[3]	1,670	1,732	1,780	1,817	1,865	1,898	2,005	2,220
				Pounds per capita[4]				
Whole milk, plain	165.52	157.41	152.61	146.93	140.59	135.11	130.68	130.46
Lowfat milk	58.57	62.29	65.60	68.30	71.76	74.12	75.68	77.75
Skim milk	11.86	12.11	11.69	11.79	11.84	11.50	11.00	10.88
Flavored milk & drinks	10.97	11.59	11.27	10.69	10.24	10.07	9.54	10.12
Buttermilk	4.80	4.66	4.52	4.26	4.17	3.92	4.06	4.26
Half and half	2.50	2.48	2.47	2.47	2.49	2.53	2.55	2.66
Light cream	.36	.31	.32	.30	.24	.24	.27	.29
Heavy cream	.61	.59	.56	.63	.66	.68	.71	.80
Sour cream, dips	1.65	1.68	1.72	1.79	1.84	1.88	2.01	2.14
Yogurt	2.24	2.45	2.57	2.54	2.61	2.55	2.71	3.18
Eggnog	.40	.43	.43	.42	.42	.44	.46	.47

[1]Preliminary. [2]Total includes filled and imitation milk. [3]Total may not add due to rounding. [4]Based on estimated population using fluid products from purchased sources.

Table 21.—Sales of individual fluid products as percent of average daily fluid milk sales, all Federal order markets, 1970, 1975, 1977-83[1]

Fluid items	1970	1975	1977	1978	1979	1980	1981	1982	1983
					Percent				
Whole milk[2]	76.1	65.6	61.1	59.8	58.4	56.7	55.6	54.7	53.2
Flavored whole milk[3]	2.5	2.6	2.7	2.5	2.3	2.0	1.5	1.4	1.5
Total whole milk	78.6	68.2	63.8	62.3	60.7	58.7	57.1	56.0	54.6
Lowfat milk[4]	12.1	21.4	24.4	26.0	27.5	29.1	30.5	31.5	32.4
Plain	3.3	11.6	15.8	18.0	20.7	22.8	25.2	26.5	27.6
Solids added	8.8	9.8	8.6	8.0	6.8	6.3	5.4	5.1	4.8
Skim milk	4.3	4.2	4.5	4.4	4.5	4.6	4.5	4.4	4.3
Plain	1.1	1.7	2.1	2.3	2.7	2.9	3.3	3.4	3.3
Solids added	3.2	2.5	2.4	2.1	1.8	1.7	1.2	1.0	1.0
Buttermilk	1.9	1.8	1.8	1.7	1.6	1.6	1.6	1.8	1.9
Yogurt	.3	.7	1.0	1.0	.9	.9	1.0	1.0	1.2
Flavored milk drinks	.8	1.5	2.4	2.4	2.5	2.7	2.9	2.8	3.0
Total skim and lowfat items	19.4	29.6	34.1	35.5	37.0	38.9	40.5	41.5	42.8
Milk and cream mixtures	1.1	.9	1.0	.9	1.0	1.0	1.0	1.0	1.1
Light cream	.2	.2	.1	.2	.1.	.1	.1	.1	.1
Heavy cream	.2	.2	.2	.2	.2	.3	.3	.3	.3
Sour cream	.4	.6	.7	.7	.7	.7	.7	.8	.9
Total cream items	.8	1.0	1.0	1.1	1.0	1.1	1.1	1.2	1.3
Eggnog	.2	.2	.2	.2	.2	.2	.2	.2	.2
Total fluid milk and cream	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[1]Total packaged disposition in and out of the marketing area, by regulated handlers. Totals may not add due to rounding. [2]Includes whole milk equivalent of small quantity of concentrated milk. [3]Includes small amount of flavored milk drinks. [4]Includes 1 percent lowfat milk.

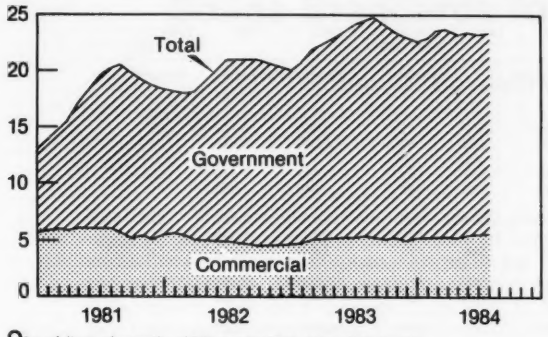
Table 22.—U.S. domestic civilian disappearance of milk on a fat-solids-basis, commercial and noncommercial sources, selected years, 1970-83

Year	Civilian disappearance				Total military utilization[2]	Consumption excluding donations from USDA supplies		
	Consumed on farms[1]	USDA donations to civilian channels and National School Lunch and Special Milk Programs	Commercial sources	All sources		Civilian	Military	Total
				Million pounds				
1970	2,196	7,645	103,371	113,212	2,419	109,029	1,788	110,817
1971	2,117	8,020	103,782	113,919	2,031	109,393	1,608	111,001
1972	1,914	7,406	106,563	115,883	1,671	111,977	1,258	113,235
1973	1,766	7,021	106,721	115,508	1,257	111,987	1,257	113,244
1974	1,643	4,959	107,376	113,978	1,137	112,519	1,137	113,656
1975	1,495	5,780	108,148	115,423	1,075	113,143	1,075	114,218
1976	1,392	3,982	111,276	116,650	1,013	116,168	1,013	117,181
1977	1,283	6,492	110,401	118,176	996	115,184	996	116,180
1978	1,168	5,785	113,263	120,216	977	117,931	977	118,908
1979	1,031	5,820	115,375	122,226	1,163	119,906	1,163	121,069
1980	943	7,058	114,823	122,824	1,067	118,466	1,067	119,533
1981	886	4,645	118,206	123,737	1,019	119,992	1,006	120,998
1982	839	8,552	119,722	129,113	1,369	121,461	1,010	122,471
1983[3]	835	13,124	120,207	134,166	1,307	121,942	1,019	122,961

	Per capita civilian disappearance[4]				Civilian consumption excluding donations from USDA supplies
	Consumed on farms[1]	USDA donations to civilian channels and National School Lunch and Special Milk Programs	Commercial sources	All sources	
			Pounds		
1970	11	38	511	561	54
1971	10	39	507	556	534
1972	9	36	514	558	539
1973	8	34	509	551	534
1974	8	24	507	539	532
1975	7	27	506	540	529
1976	6	18	515	540	538
1977	6	30	506	542	528
1978	5	26	514	545	535
1979	5	26	517	548	538
1980	4	31	509	544	525
1981	4	20	519	543	527
1982	4	37	520	561	528
1983[3]	4	56	517	578	525

[1]Includes a small amount of farm-churned butter sold. [2]Includes any quantities used by military in civilian feeding programs abroad. [3]Preliminary.
[4]Aggregate in each category divided by total civilian population.

Dairy Product Stocks ○



○As of first of month. *Milk equivalent, fat solids basis.

Government holdings of cold-storage butter on August 1 were 105 million pounds below a year earlier. Unlike butter, cold-storage stocks of American cheese and the process cheese inventory have changed little since May 1.

Milk-equivalent commercial dairy stocks on August 1 totaled 5.6 billion pounds, nearly 400 million more than May 1 and 160 million more than August 1, 1983. Butter stocks on August 1 were about the same as on May 1, but 15 million pounds larger than a year earlier. Meanwhile, cheese stocks held by the trade were up about 30 million pounds from May 1, but were 19 million smaller than a year earlier.

Net Removals Fewer Still

USDA net removals (delivery basis) of dairy products under the price support program during January-August equaled 7.8 billion pounds of milk, (fat-solids basis) down 6.1 billion (44 percent) from the same period in 1983. Government purchases are being reduced because commercial sales are up and milk production is down. For calendar 1984, CCC net purchases are expected to total about 8.5 billion pounds, compared with 16.8 billion in 1983. In 1985, CCC net purchases are projected to remain relatively large.

FOREIGN TRADE AND TRENDS

Imports Up, Exports Lower

Imports of dairy products during January-July, on a fat-solids basis, were about 7 percent larger than a year earlier. Imports of quota-type cheese on a product weight basis were up 5 percent, while nonquota types rose 26 percent. Imports of casein and lactose were up 21 and 20 percent, respectively, from a year earlier. Exports of dairy products (fat-solids basis) during January-June were equal to about 1.3 billion pounds of milk, 2 percent below a year earlier. Meanwhile, shipments during first-half 1984 were equal to about 350 million pounds, up 12 percent from a year earlier.

World Milk Production Shows No Change

In sharp contrast with the 4-percent gain from 1982 to 1983, milk production in the 37 major dairy countries is expected to remain about the same in 1984 and to decline slightly in 1985. This slowdown is the result of U.S. and EC programs aimed at reducing production. With no growth in milk production and continued expansion in cheese output, butter and nonfat dry milk production will likely decline in 1984 and 1985.

Table 23.—Dairy product stocks, August 1, 1983-84

Item	1983	1984
	Million pounds	
Commercial:		
Butter	29.6	44.3
American cheese	391.7	376.2
Other cheese	111.3	107.9
Nonfat dry milk	99.2	72.9
Milkfat	193.7	200.6
Solids-not-fat	269.1	240.6
Milk-equivalent, fat-solids basis	5,479.4	5,634.1
Government:		
Butter	558.8	443.1
American cheese[1]	752.9	790.2
Nonfat dry milk	1,340.4	1,334.3
Milkfat	692.2	611.2
Solids-not-fat	1,521.4	1,527.2
Milk-equivalent, fat-solids basis[1]	18,979.2	16,959.1

[1]Does not include processed American cheese stocks held by CCC.

Table 24.—USDA dairy purchases, with comparisons[1]

Item	January-August		
	1983	1984	Change
	Million pounds		*Percent*
Butter	361.4	184.5	−48.9
American cheese	654.1	403.3	−38.3
Nonfat dry milk	810.0	552.1	+31.8
Evaporated milk	14.1	14.2	+0.7
Milk-equivalent, fat-solids basis	13,955.5	7,831.1	−43.9

[1]Deliveries minus unrestricted sales.

Table 25.—Uncommitted CCC inventories, selected dates, 1981-84

Date	Butter	American cheese	Nonfat dry milk	Milk-equivalent, fat-solids basis
	Million pounds			*Billion pounds*
Sept. 1, 1981	215.2	544.3	777.1	9.8
Sept. 1, 1982	416.3	821.4	1,187.5	16.7
Sept. 1, 1983	457.5	928.9	1,348.8	18.6
Jan. 1, 1984	341.7	838.3	1,372.3	15.3
April 1, 1984	354.4	858.0	1,376.0	15.8
July 1, 1984	340.1	868.9	1,377.2	15.6
Aug. 1, 1984	300.6	867.6	1,376.0	14.8
Sept. 1, 1984	254.4	813.0	1,246.1	13.3

Table 26.—Dairy products: U.S. imports, quota and nonquota, total 1983 and January-July, 1983-84[1]

Product	Calendar year quota	1983 imports	July			Cumulative, January-July		
			1983	1984	1984 as a % of 1983	1983	1984	1984 as a % of 1983
	Thousand pounds				*Percent*	*Thousand pounds*		*Percent*
Cheese, quota types								
American								
-cheddar	12,205.3	[4]12,746	2,152	1,570	73	5,968	5,122	86
-other	7,545.4	8,909	992	523	53	4,849	6,648	137
Italian								
-original loaves	12,374.4	12,121	907	1,367	151	6,892	7,482	109
-other	1,550.0	1,537	160	235	147	748	1,058	141
Edam and Gouda								
-natural	9,208.6	8,967	616	664	108	4,528	4,187	92
-processed	3,151.3	3,077	114	219	192	777	1,329	171
Blue mold	5,469.6	[4]5,603	302	346	115	3,498	2,522	72
Swiss								
-Emmenthaler	70,278.1	68,441	5,126	6,055	118	36,620	35,864	98
-Gruyere process	16,479.0	15,693	1,181	2,190	185	8,482	8,184	96
Other								
-over 0.5% fat	89,466.8	[4]90,417	4,699	12,801	272	42,661	47,068	110
-under 0.5% fat	12,621.1	12,145	691	1,993	288	5,429	6,846	126
Total	240,349.6	239,656	16,940	27,963	165	120,453	126,312	105
Cheese, nonquota types								
Other cow's milk cheeses[2]		18,399	1,292	1,659	128	9,308	12,266	132
Miscellaneous[3]		1,479	199	203	102	807	1,160	144
Pecorino		25,703	1,551	1,834	118	14,999	18,398	123
Roquefort		1,010	106	91	86	567	628	111
Total		46,591	3,149	3,788	120	25,682	32,451	126
Total cheese, Quota and nonquota	240,349.6	286,247	20,089	31,750	158	146,135	158,763	109
Other quota products								
Butter	707.0	[4]1,724	199	49	25	[4]941	[4]1,023	109
Butteroil	1,200.0	1,200	0	0	0	1,200	1,200	100
Butterfat mixtures	2,580.0	2,334	4	401	[5]	26	1,247	[5]
Ice cream	3,377.3	0	0	57	[5]	0	130	[5]
Frozen cream	12,540.0	[4]14,179	150	1,531	[5]	7,251	7,256	100
Nonfat dry milk	1,807.0	[4]2,399	109	143	131	1,158	1,095	95
Dried buttermilk and whey	496.0	400	0	0	0	0	1	[5]
Evaporated milk	1,312.0	[4]7,181	700	317	45	[4]3,630	[4]4,070	112
Condensed milk	4,079.0	3,763	36	182	506	616	2,566	417
Chocolate crumb								
-regular	21,409.2	16,240	3,321	815	25	11,161	9,096	81
-lowfat	4,680.0	1,252	160	10	6	784	28	4
Animal feed with milk solids	16,300.0	15,060	1,517	2,006	132	7,266	8,821	121
Nonquota products								
Casein		159,527	11,411	23,026	202	87,017	104,888	121
Lactose		1,055	155	108	70	652	784	120
Milk-equivalent, fat-solids basis, total all products	2,234,270	[4]2,615,583	180,873	273,853	151	1,352,263	1,453,819	107

[1]Preliminary. [2]Primarily soft, ripened cheeses. [3]Gjetost, Bryndza, Gammelost and Noekkelost, and Goya. [4]Probable error in reported data. [5]More than 1,000.

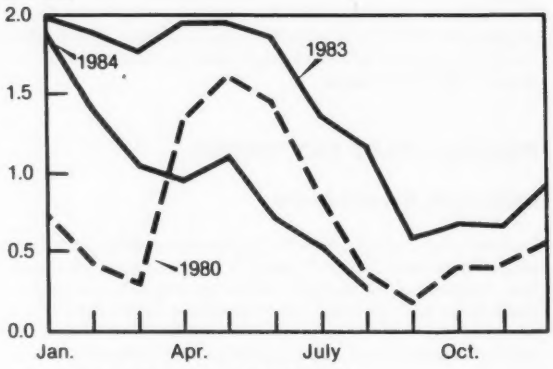
Source: U.S. Department of Commerce, Bureau of the Census.

Table 27.—U.S. dairy trade,[1] 1982-84

Year and quarters	Imports		Exports	Shipments[2]
	Cheese	Other		
	Million pounds			
1982				
1st	359	62	1,558	153
2nd	439	126	938	157
3rd	538	43	592	129
4th	792	117	846	163
Year[3]	2,128	349	3,935	602
1983				
1st	512	121	500	152
2nd	493	45	870	158
3rd	532	44	434	130
4th	736	132	623	136
Year[3]	2,273	343	2,427	577
1984				
1st	465	104	519	175
2nd	548	63	827	173

[1]Milk-equivalent, fat-solids basis. [2]To U.S. territories. [3]May not add because of rounding.

USDA Dairy Product Purchases*



*Net removals, milk equivalent, fat-solids basis.

Impacts of Nationwide Adoption of the California Solids Standards for Fluid Milk Products[1]

Robert D. Boynton and Richard F. Fallert[2]

Abstract: Nationwide adoption of standards similar to the current California standards would raise retail prices for fluid milk products about 3.5 cents per half-gallon (3 percent). The change would generally increase the nutrient content of milk, but would cost an estimated $5.9 million annually to enforce effectively. It could result in somewhat increased sales of butterfat and solids-not-fat in fluid milk products, but the magnitude is unclear. In addition, it likely would result in only a small reduction in Government purchases of surplus dairy products.

Keywords: Fluid milk, product standards, milk pricing, milk quality, milk consumption, nutrition, market performance.

The Dairy and Tobacco Adjustment Act of 1983 required USDA to submit to the Congress "...a report on the effect of applying, nationally, standards similar to the current California standards for fluid milk products in their final consumer form...." The study summarized here responded to this congressional mandate and addressed consumer acceptance, nutritional augmentation, enforcement of minimum standards, multiple component pricing of producer milk, reduced Commodity Credit Corporation (CCC) purchases, product quality, and consumer prices.

Federal standards of identity for fluid milk products, set by the Food and Drug Administration (FDA), establish the legal characteristics of packaged fluid milk moving in interstate commerce, including product names, ingredients, and label information. The present Federal milk standards took effect July 1, 1975, and most States have adopted the Federal standards for intrastate sales. Among the economically more important milk product standards are the minimum levels of butterfat and solids-not-fat in fluid milk products.

The average composition of milk as produced on the farm is 3.7 percent butterfat, 3.3 percent protein, 0.7 percent ash (calcium, etc.), 4.7 percent lactose, and 87.6 percent water. All the solids in milk other than butterfat (BF) are collectively designated solids-not-fat (SNF). Since the solids content of cows' milk can be legally and safely altered by removing some or all of the BF or adding concentrated SNF (condensed skim milk or nonfat dry milk) to regular milk, processors can manufacture fluid milk products containing a host of different BF and SNF combinations.

Currently, much attention is being focused on the issue of whether minimum standards for the solids content should be raised. The U.S. Congress, some State legislatures, various dairy industry groups, and consumer organizations are involved in the issue. Directly affected by the issue are dairy farmers' returns, the quality of fluid milk products, retail prices for fluid milk products, and Government costs of the dairy price support program.

Solids Standards

Because California has had higher standards for 22 years, and because its per capita consumption of fluid milk products is generally regarded to be above the national average, there is much interest in the effects of that State's standards. The current California standards for solids in fluid milk require higher BF in whole milk and higher SNF in all fluid milk products than do the FDA standards (see table A). The major difference between the two sets of standards is in the SNF component.

This difference extends beyond the standards to actual tests of retail fluid milk products. The average solids composition of retail fluid milk products tested in 15 Federal order markets in the central United States in 1982 was also below the California standards.

In general, California's milk processors support the State's solids standards and companion multiple-

Table A.—Existing FDA and California butterfat (BF) and solids-not-fat (SNF) standards

Fluid milk products	FDA standards		California standards	
	BF	SNF	BF	SNF
	Percent			
Whole milk	3.25	8.25	[1]3.5	[2]8.7
Lowfat milks	0.5-2.0	8.25	1.9-2.1	10.0
Skim milk	[3]0.5	8.25	[4]0.25	9.0

[1]Allowed to equal 3.4 provided total solids are 12.2. [2]Allowed to equal 8.6 provided total solids are 12.2. [3]Less than. [4]Less than or equal to.

[1]Based on "Nationwide Adoption of the California Solids Standards for Fluid Milk Products: Issues and Impacts," ERS, USDA, staff report AGES840816, August 1984, by the same authors. [2]Associate professor, Cornell University, and agricultural economist, Economic Research Service, USDA; (607) 256-7602 and (202) 447-4997, respectively.

component pricing (MCP) system. Four benefits of the California standards/component pricing system sometimes claimed are:

- Equal raw product costs among processors are more strongly assured with standards set at or above the average test of incoming milk and a component pricing system that requires payment based on the SNF content of milk.
- The problem of producers adding water to their bulk tanks to increase the volume and thus the value of their shipments has been virtually eliminated by the component pricing system because producers are paid almost exclusively on the basis of the BF and SNF in the volume of milk they ship, not for the water in their milk.
- The MCP system in California (in its present form for Class I milk since 1965) has allowed the producer price of BF to be reduced as its value to consumers has diminished.
- Higher nonfat solids in fluid milk have mitigated the decline in per capita consumption in California.

Nevertheless, some California processors say the system has its shortcomings. Some believe the BF standard for whole milk is too high in light of expressed consumer preference for foods low in fat. Others cite the costs of daily testing of producer milk under the California component pricing system and argue that composite samples would be sufficiently accurate and much less expensive. A third complaint is that SNF fortification of whole milk should not be required. Some processors argue that regular whole milk should be marketed as it comes from the cow because any fortification of whole milk is not rewarded in the marketplace.

Notably, California's adoption of higher solids standards and of multiple-component pricing was made easier by several factors. First, there was no lowfat product being sold in California before 1962. Consequently, it was easier for the State's dairy industry to come together on a single lowfat product that research showed was most strongly preferred by California consumers.

Second, California is a relatively isolated and self-sufficient market for fluid milk products, which permits it to adopt product standards different from neighboring States without disadvantaging the State's processors in interstate trade or erecting substantial barriers to out-of-State fluid processors.

A third reason was the existence of resale price control in the State. The ability to control minimum retail milk prices made the transition much smoother and more predictable.

Finally, the simultaneous adoption of multiple-component pricing allowed the BF and SNF values of producer milk to be sensitive to the marketplace (again, under State marketing order control and retail price control), assured processors of more nearly equal raw product costs, and gave processors a market for the SNF they were now paying for on a component basis.

Viewpoints of Major Groups

Farmers

Most dairy farmer groups, including the National Milk Producers Federation, favor an increase in the Federal minimum standards for SNF in fluid milk products. The views of farmers can be grouped into four categories:

(1) Raising the SNF standards would upgrade the taste of fluid milk products (especially lowfat milks) and might increase sales as a result.
(2) Increasing the SNF standards would move more milk components through commercial markets (regardless of whether a higher volume of fluid milk products is sold) and would reduce Government purchases of nonfat dry milk powder and butter.
(3) Higher solids standards would raise retail prices only modestly and would not discourage milk consumption in the long run—if at all.
(4) Higher solids should have the effect of selling more producer milk in Class I markets, thereby raising producer blend prices.

Processors

For the most part, U.S. processors are not in favor of increasing solids standards. Some of their arguments are:

(1) Increased solids standards would hurt sales because of the added ingredient and processing costs. (Since the largest price increases would likely be for the lowfat products, sales could be depressed the most in the only fluid product category that has demonstrated any per capita sales growth.)
(2) Raising the Federal standards applies only to milk in interstate commerce, and if not matched by the States, competitive interstate relationships could be harmed.
(3) Higher solids standards need to be coupled with a multiple-component pricing system, but such a package has not been presented.
(4) Consumers have had the chance to buy fortified fluid products, but have done so with declining frequency.
(5) Mandating higher standards reduces consumers' freedom of choice.
(6) There has not been enough analysis done on the impact of increasing solids standards.

Consumers

In general, consumer groups have opposed any increase in the minimum Federal solids standards. A coalition of seven consumer organizations expressed the following concerns:

(1) Higher solids standards would increase the cost of fluid milk products, especially lowfat milks.
(2) Government purchases of surplus dairy products under the price support program could increase if higher fluid milk prices discourage consumption significantly.
(3) Mandatory higher solids standards would limit consumers' choices.
(4) Higher solids standards would require more Government regulation of milk markets.

A retail grocers' trade association also opposed raising the standards on many of the same grounds.

Food and Drug Administration

When FDA proposed the current minimum levels in 1972, several individuals and milk producer groups advocated higher minimums on the grounds that this would improve the flavor of the product. FDA maintained that the higher minimums would not bear a reasonable relationship to the composition of milk as it comes from the cow and involved matters unrelated to identity.

In its 1973 decision, the FDA argued that to set higher standards (near the average solids composition of cows' milk), "... would mean that in approximately half of all cases the production from an individual cow would not meet the minimum compositional requirements, and therefore would not be milkfat content of the milk above 3.25 percent, and of the milk solids not fat level above 8.25 percent, is a matter of quality rather than identity...." [*Federal Register*, October 10, 1973 (38 FR 27924)]

California Sales Relative to Other Areas

Proponents of higher solids standards frequently cite California's record as proof that higher standards will sell more fluid dairy products. California's per capita consumption of all fluid items is greater than the national average and the average of all Federal orders.

However, examination of the Federal order regions on a product-by-product basis reveals that per capita consumption in California is exceeded by several regions. The North Atlantic and West South Central regions have greater per capita consumption of whole milk. The North Central, Mountain, and Pacific regions each had lowfat sales and combined lowfat and skim milk sales that exceeded California's. The West North Central region had greater per capita skim milk consumption than California; the Mountain and Pacific regions had greater total fluid consumption than California.

California's per capita fluid milk sales have been consistently above the national average, but not the highest in the United States. This is especially true for lowfat milk consumption, where absolute and percentage changes in the 1970's were better in several of the Federal order regions than in California. Consequently, if one views California's consumption record as relatively strong but not unsurpassed, the next question is, to what extent have its higher solids standards been responsible for the strong sales performance?

There are at least four additional factors partly responsible for California's consumption record: exceptionally large expenditures on generic advertising of milk, relatively low retail milk prices in California, an exceptionally favorable demographic profile, and the maintenance of especially high milk quality on California farms and throughout the distribution system.

Data were unavailable for measuring the separate impact of each of these factors on California's fluid milk consumption; it appears reasonable to conclude, however, that high solids standards must share at least part of the credit.

Market Performance

Many proponents of higher solids standards argue that the marketplace has failed to provide the type of fluid product consumers should have and want to have. They suggest that under present Federal standards, lowfat and whole milk products lack taste and texture. Intense competition at the wholesale and retail levels has pushed products toward the minimum standards in an effort to offer the lowest possible prices, they argue.

Opponents of higher solids standards counter with the assertion that the marketplace can and does offer fortified products voluntarily. Over the years, however, consumers have not judged the extra solids products worth the higher price they require. Markets have not failed consumers, but rather consumers have spoken at the checkout counter. It is clear that both sets of arguments have some validity. Where the balance lies is uncertain.

Solids Standards Enforcement

The record of compliance with the Federal standards in recent years has been disappointing. A 1982 study conducted by a Federal milk marketing order's administrative unit in 15 central U.S. order areas strongly suggests that enforcement is lax in these markets. The average BF content of regular whole milk was 3.23 percent—below the minimum FDA standard—in all the included States, and 53 percent of all whole milk samples had a BF test below 3.25 percent. The average SNF and protein tests of all unfortified products were less than the average test of producer milk from which they were made. Dilution of producer milk could be inferred from these findings.

Effects on Consumption, Prices, and Expenditures

Consumer preference for milk of varying solids composition has been the subject of considerable research. Most of this work, however, was done 10 or more years ago, and in the interim, research and casual observation suggest that consumer preferences have changed significantly. Given the research that currently exists, the effect of higher solids standards on the tastes and preferences of consumers cannot be accurately predicted. It is possible, however, to isolate the impact of higher milk prices (due to added solids) on fluid milk sales, assuming that on balance consumers judge there to be no taste improvement.

It is estimated that the cost of a half-gallon of milk would increase as follows due to increases in ingredient and processing costs: regular whole milk, 3.1 cents; regular 2-percent lowfat, 5.7 cents; fortified 2-percent lowfat, 3 cents; regular 1-percent lowfat, 5.4 cents; fortified 1-percent lowfat, 3.6 cents; and regular skim milk, 1.6 cents. This implies an overall average retail price increase for fluid milk products of about 3.5 cents a half-gallon (3 percent).

Depending upon how those cost increases are passed on to consumers and consumers' responsiveness to price changes (elasticity of demand), it is estimated that sales of all fluid products would drop between 537 million pounds (1.1 percent) and 2,347 million pounds (4.7 per-

cent) annually. As a result, SNF sales could be expected to rise by as little as 12.7 million pounds or as much as 180.3 million a year. Such additional commercial SNF sales would have a minimal impact on CCC purchases under surplus conditions.

Total consumer expenditures for fluid products could either rise or fall depending upon buyers' responsiveness to price; expenditures could rise by up to $200 million annually or fall by as much as $600 million.

Conclusions

Favorable consumption experience in California is often cited by proponents of higher standards. The results of this study suggest, however, that this argument is weak.

While the per capita consumption of fluid milk in California is above the national average, it is not the highest in the Nation. Moreover, the evidence suggests that California's consumption is probably influenced by high generic advertising, relatively low retail milk prices, a favorable demographic profile, and the unusually high milk quality, as well as by the higher solids products.

It has been suggested that Federal adoption of higher standards could lead to increased use of total milk solids, but the study results indicate that the magnitude is unclear. Consumers would likely reduce their purchases of fluid milk because the price effect of fortification would likely outweigh the taste and preference effect.

While the analysis shows that the added solids in the milk which would be sold would more than offset the solids in the fluid milk sales that would be forgone, the magnitude of the effect could be quite small. A shift to higher standards would not solve the current supply/demand imbalance, which has its roots in other causes. However, to the extent that freshly produced nonfat dry milk powder and condensed milk were used in commercial fortification, it would help reduce Government purchases.

If higher solids standards are adopted, there appears to be reason also to consider multiple-component pricing for producer milk. Under this pricing system individual farmers are paid more directly for the value of the various components in the milk they market, and raw product costs are better equalized among fluid milk processors.

Higher SNF standards would generally have positive nutritional effects for those who drink milk and are also deficient in calcium. At the same time, higher BF standards could raise concerns about the level of cholesterol and calorie intake. Furthermore, to the extent higher milk prices discourage consumption, lower income consumers might nutritionally disadvantaged.

If higher Federal standards were to be effective, there would be need for greater enforcement at the processing level. The California experience does suggest that enforcement would be possible, but an additional expense would be incurred for this function.

The overall benefits of raising the minimum SNF standards to match those of California are increased nutrient content of milk, higher commercial disposition of solids-not-fat, and possibly CCC annual outlay reductions of $12 million to $218 million.

In terms of costs, the higher standards might raise the average retail price of a half-gallon of milk about 3.5 cents (3 percent), increase consumer outlays by up to $400 million annually, reduce fluid sales, and cost substantially more to enforce if the overall enforcement system were structured like that in California.

Thus, while there is considerable interest in the proposal to raise Federal fluid milk solids standards, with the information currently available it is not entirely clear that consumers, dairy farmers, processors, and taxpayers would be better served by such a change, as there are still many unresolved issues.

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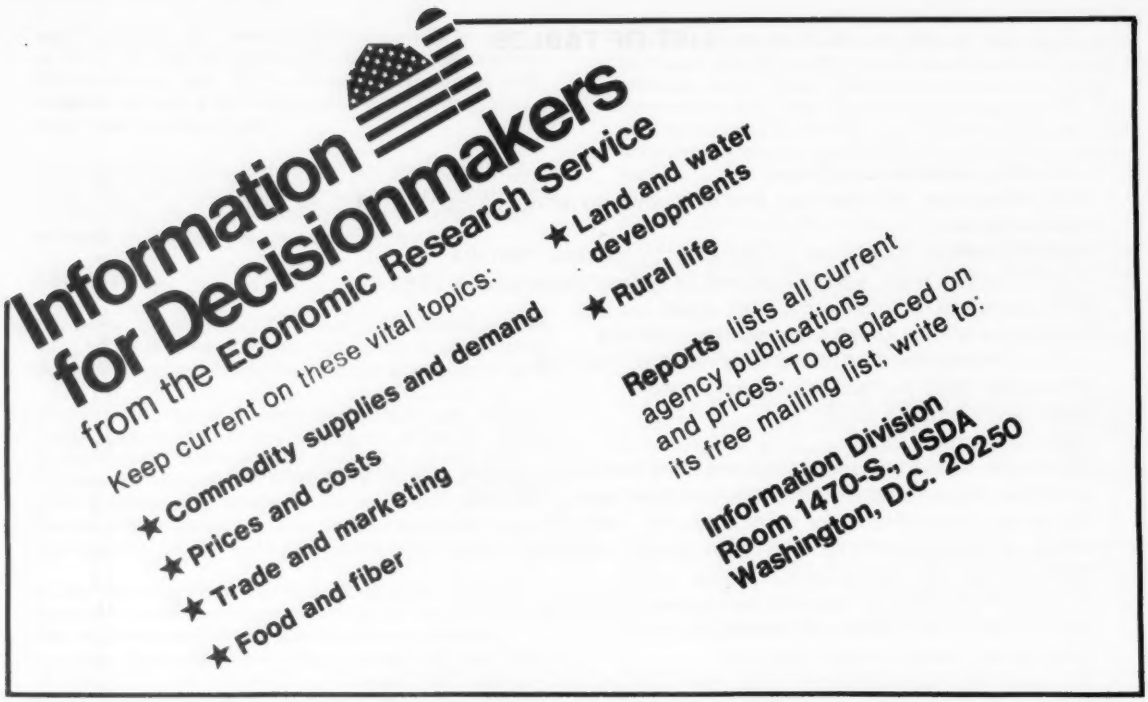
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